





AN  
Inaugural Dissertation  
ON THE  
DYSENTERY.

Submitted to the Examination of  
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TRUSTEES AND MEDICAL FACULTY  
OF THE  
UNIVERSITY OF PENNSYLVANIA.

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For the DEGREE of DOCTOR of MEDICINE.

..... 21575 .....

BY COLIN MACKENZIE, of BALTIMORE,  
Member of the Philadelphia Medical and Chemical Societies.

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*Quæ presenti opusculo defunt, suppleat ætas. Fructum studiorum  
viridem, et adhuc dulcem, promi decet; dum et venia et spes est, et  
paratus favor, et audere non dedecet.* QUINTILLIAN.

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James Goodhouse M. D.

from his sincere friend  
& ~~Walter~~ ~~Low~~

His Author

T O  
G E O R G E B R O W N, M. D.  
O F B A L T I M O R E.

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D E A R S I R,

*It affords me the highest degree of satisfaction, to be able, thus publicly, to return you my unfeigned thanks, for the many acts of kindness which you have conferred on me, and for the repeated testimonies of friendship which I have ever experienced from you.*

*IN dedicating, therefore, the following pages to you, permit me to call it, a dedication of GRATITUDE—the sincere wish of a pupil to testify his regard and esteem for a beloved preceptor, from whom he has received so much useful instruction, and to whom he is under sensible and lasting obligations.*

*WHATEVER share, Sir, of medical information I may possess, the chief source from whence it has been derived, can never escape my recollection : Nor shall I fail to accompany your progress through life, with my most fervent wishes for your health, prosperity, and future happiness.*

*COLIN MACKENZIE.*



## INTRODUCTION.

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AMONG all the comforts allotted to mankind, nothing is certainly more desirable, than the enjoyment of health.—But the human frame, in consequence of its delicate structure, is so susceptible of disease, that no sooner has the new-born babe inspired the breath of life, than it becomes liable to some of those complaints, peculiar to the infantile state.

HOLY writ informs us, that in the beginning, when the omnipotent Creator formed man out of the dust, he enjoyed the most sublime happiness, and was altogether free from those pains and infirmities, to which his posterity have since been subjected.—But as by his fall, he forfeited the favour of his Maker, and was doomed to suffer both sickness and death ; Providence therefore wisely implanted in him a natural instinct, to seek for remedies to preserve health, and moderate the violence of disease : Nor has he sought in vain.—Many of those diseases which were formerly supposed to be incurable, have at length yielded to modern

improvements in the *healing art*; and many medicines have been discovered of late, which act almost with certainty, in removing those complaints, which were anciently denominated the *opprobria medicorum*.—As this is the case, we have reason, I think, to entertain a fond hope, that e're long, few avenues will remain to the grave, save that of old age.

“ IN the first steps of our enquiry we meet  
 “ indeed with much variety and obscurity;  
 “ but the further we penetrate into nature, we  
 “ find so much analogy among all her works,  
 “ as to be forced to acknowledge and to revere  
 “ her simplicity.”

THIS just observation of the illustrious PRINGLE, should ever be deeply impressed on the minds of those, whose wish it is, to make strict researches into the arcana of nature.—In order to investigate more minutely, those subjects, which have hitherto appeared to us inexplicable, we should always view nature as being clothed in a simple garb, and conducting all her operations in an uniform and perspicuous manner.



- “ Nature in simple dignity appears,  
 “ And all her works, a hand divine declares.  
 “ We trace in Nature’s most minute design,  
 “ The signature and stamp of power divine.”

I HAVE chosen the Dysentery for the theme of my inaugural dissertation, not with the most distant view of doing it more justice than it has hitherto met with, or of saying any thing new on the subject ; but merely because I have had some opportunities of becoming acquainted with it.---And although it has heretofore been treated of at large, by many of the most respectable medical writers which the world has afforded, yet, even at the present day, physicians appear to be undecided in their opinions respecting it.---Its still frequent occurrence and melancholy effects, will, therefore, I hope, be admitted as a sufficient apology, for every possible attempt to investigate its cause, to elucidate its nature, or to obviate with success, its fatal termination.

I SUBMIT this dissertation to the examination of the medical faculty, and to its fate.



# Inaugural Dissertation.

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THE Dysentery, (the disease which is intended for the subject of the present dissertation) is derived from the Greek word *δυσ*, which signifies, with difficulty, and *εντερον*, the intestines; importing a difficulty, or a disturbance of the functions of the intestines.

THIS disease is peculiar to no country, for instances of it are recorded by writers, in almost every part of the globe. It may occur in all places, and at all seasons, but it is generally most prevalent during the autumn, in cities, and other confined places, where numbers are exposed to the same remote and exciting causes.—It is likewise often epidemic in fleets and armies; and the great havoc it has occasioned among soldiers in these situations, is well known. “The page of military history weeps less for the slain in

“ battle, than for those who have fallen victims  
 “ to this calamity.”

FROM the definition which DR. CULLEN has given of the dysentery, it appears, that he viewed it as being *always* a contagious disease, depending *solely* upon the action of a specific contagion. As I hope however, to prove hereafter, that the disease is not *always* contagious, and that it is very frequently owing to the same causes which produce intermitting and remitting fevers, I shall therefore take the liberty to deviate a little from him, by leaving out the word *contagious* in the definition which I am about to give.

I WOULD therefore define the dysentery to consist in a fever, accompanied with frequent mucous, and sometimes bloody stools, attended with tormina, tenesmus, and a retention of the natural fæces.

### HISTORY OF THE DISEASE.

THE Dysentery (as was before said) may occur at any season of the year, in general however, it makes its appearance towards the latter end of July, or the beginning of August, and ceases gradually on the approach of winter.

THE disease is for the most part ushered in, by the following premonitory symptoms. The

patient is seized with an universal languor and lassitude, accompanied with anorexia, frequent chilly fits, a bitter taste in the mouth, and sometimes with nausea and vomiting. These symptoms are in a short time succeeded by morbid action in the arterial system, attended with a severe pain in the head, excessive thirst, bilious stools, and, when the attack is very violent, with delirium and coma.—The pulse, which in the beginning, was scarcely perceptible, becomes now full and strong, and excruciating tormina harass the bowels.

IN other instances, the pain in the bowels comes on, unaccompanied by any apparent febrile affection, and is succeeded by a tenesmus, and frequent, but small discharges, from the bowels, consisting for the most part, of an intermixture of blood and mucus. Together with these symptoms, the appetite for food becomes languid, but nausea and vomiting rarely occur.—After an uncertain length of time, the patient is attacked with a fever, in a more or less violent degree, and with it the tormina and tenesmus become more considerable, and the stools more frequent. The fever sometimes puts on the form of an intermittent, more frequently that of a remittent, and is often likewise of a continued kind, accompanied with highly inflammatory

symptoms.—The matter evacuated from the bowels, differs considerably in its appearance ; sometimes it consists entirely of mucus ; at other times, of pure blood ; but in the generality of cases, the mucus and blood are intermixed with each other. The stools are often unusually fœtid.

It is remarked by some authors, that a genuine purulent matter has sometimes been voided by stool, and frequently, a putrid sanies, proceeding from gangrenous parts\*. The former of those appearances, I believe, is rarely to be met with, and the latter does not occur, excepting in the advanced stage of the disease.

WRITERS on the Dysentery make mention of small membrane-like appearances, which have on some occasions been discovered among the fœces, and were formerly supposed to be portions of the villous coat of the intestines, abraded, as it were, by the acrid humours generated there.—White masses of a sebaceous nature, are sometimes too, discharged by stool ; which from their resemblance to suet, have received the appellation of *corpora pingua*. I have in a few instances only, met with either of the above substances ; much has been said concerning them, but

\* Cullen's first lines.

physicians still appear to differ in sentiment, respecting their nature.

ALTHOUGH the evacuations by stool are very frequent, yet, natural fœces are rarely excreted ; and when they do at any time appear, they are discharged in the form of small indurated masses, termed by writers, *Scybala*.—" When  
 " these are voided, whether by the efforts of nature, or as solicited by art, they procure a remission of all the symptoms, and more especially of the frequent stools, griping and tenesmus."

IN the course of the disorder, worms are sometimes discharged both from the stomach and bowels ; but this occurrence is altogether accidental. A procidentia ani and a suppression of urine, sometimes too, take place, and tend considerably to increase the sufferings of the miserable patient.

IN attacks of a more violent nature than those which have yet been mentioned, symptoms of mortification in a short time ensue, and close the scene. When the bowels become affected with gangrene, the patient, heretofore restless, and in great agony, now complains but little, either of pain or tenesmus ; the pulse sinks ; delirium and coma supervene\* ; and the miserable

\* In some instances however, the senses remain perfect and unimpaired, till the last moments of life.

sufferer at length quietly sinks, into the arms of death.

WHEN the disease arrives at its highest degree of danger, a miliary eruption is frequently observed on the skin, and ulcers appear on different parts of the body†. Children, at this stage of the complaint, are sometimes attacked with convulsions‡.

WHEN the disease is mild, it sometimes goes off spontaneously; the discharges from the bowels become less frequent; the tormina and tenesmus gradually abate; and the fæces put on a natural appearance.

† Pringle, Monro, and others.

‡ A symptom which sometimes takes place in the course of this disease, is an immediate call to go to stool, upon swallowing any thing either solid or liquid, accompanied with a feeling, as if what was just swallowed, were running through the bowels. This sensation is often so strong, that the sick imagine, that the food they have taken has really passed through them, and are not convinced of the contrary, till they find that the discharge has been slime or mucus, without any resemblance to what they had swallowed. I have met with this symptom, but once. It occurred in the case of a patient, who laboured under an attack of the dysentery, in the Baltimore alms-house. It undoubtedly shews great irritability in the bowels, by which, a motion excited in the stomach, is almost instantaneously propagated to the anus.



FROM the history of the dysentery which has now been given, it is evident, that it prevails chiefly at that season of the year, in which, intermitting and remitting fevers are rife: Hence I think, we may with propriety conclude, that it arises from the same general causes, by which, these fevers are produced.

THE opinion, long since advanced by Dr. SYDENHAM, that the dysentery was “a fever turned inwards upon the intestines,” is, in my mind, a very just one; and indeed, the truth of it has been so clearly established by later experience, that it is almost unnecessary for me to say any thing in this place, on the subject. I shall however, quote a few passages from some of the most respectable writers on this disease, merely with a view to shew, that SYDENHAM’s opinion concerning it appears to have been accurate and well founded.

WE are furnished with many instances which incontestibly prove, that intermitting and remitting fevers frequently terminate in dysentery, and *vice versa*. Dr. CLEGHORN tells us, he has observed, that when one of these diseases is suppress-

ed, the other often ensues; nor is it uncommon for dysenteric fevers to put on the form of tertians; and for the fits of tertians, to be regularly accompanied by gripes and stools\*. Dr. MOSELEY informs us too, that he had frequently observed the same circumstance to take place in the West Indies; and says he has remarked, “ that as the  
 “ flux conforms by the number of stools, and by  
 “ its rapidity, to the degree, so it does to the  
 “ state of the fever, of the season, when it pre-  
 “ vails; the stools being more frequent, and all  
 “ the symptoms more aggravated, at those hours  
 “ when the current fevers are in their exacerba-  
 “ tion, and the reverse, when those fevers are  
 “ in their remission†.”

THE jail or ship fever frequently too, assumes the form of dysentery. Dr. BLANE in his account of the diseases incident to seamen, tells us, that when this fever prevailed on board of any ship coming from a northern climate to the West-indies, it was soon after its arrival there,

\* Diseases of Minorca.

† On tropical diseases. “ A symptomatic dysentery frequently accompanies the autumnal fevers in Pennsylvania. In the hilly parts of the state, it has been remarked, that it prevails chiefly on the *high* grounds; while remitting and intermitting fevers prevail in the neighbourhood below them.”

converted into a dysentery ; and that those ships which arrived either from England or North America, with the greatest stock of feverish infection, were the most subject to fluxes, after being a short time in the West-indies. This in all probability was owing, to the patients being induced, in consequence of the excessive heat of the climate, to expose themselves to the influence of the cool breezes, by which means, perspiration was checked, and the disease thrown with its whole force upon the bowels.

THESE observations will, I presume be sufficient, to shew, that the disease under consideration, is a *fever of the intestines*. Many more arguments might be adduced in support of this opinion, but to insert them here, would extend this dissertation far beyond its intended limits.

## DIAGNOSIS.

THIS part of the study of medicine, has of late, been deservedly considered of much less consequence than formerly, since the fallacy of prescribing for the name of a disease has been so fully, and in my opinion, justly condemned, by the generality of Physicians. As in this complaint however, the hopes of a cure, depend in a great mea-

sure upon the mode of treatment employed during the first few days of its attack, it therefore becomes a matter of some importance, to be acquainted with it, in its early stage.

FEW instances perhaps, ever occur, in which the Dysentery may not be distinguished with ease from every other complaint. There are two diseases however, with which, it may possibly sometimes be confounded, to wit, Diarrhœa and Cholera Morbus.

THE necessary discrimination between the diarrhœa and dysentery may be ascertained without much difficulty, by attending particularly to the following circumstances. In the former complaint, the alvine discharges are generally copious, consisting chiefly of natural fœces; and the disease is for the most part accompanied with little or no fever. In the latter, the natural fœces are, at least for some time, retained, and when evacuated, they appear in small hardened masses, attended at the same time with considerable fever, severe griping, and tenesmus. These last mentioned symptoms, do now and then occur in cases of diarrhœa, but they are by no means so violent as in the dysentery.

THE diagnostic symptoms of the dysentery, differ so materially from those, which character-

ize the Cholera, that it is almost impossible to confound them. In this last mentioned disease, a bilious matter is discharged in considerable quantities, both from the stomach and bowels, and the febrile symptoms are generally not so formidable, as in an attack of the former.

### REMOTE CAUSES.

THESE have generally been divided by authors into the predisposing, and exciting or occasional causes. Under the first head, we consider debility, either direct, or indirect, or as it affects the whole, or certain parts of the body, only.—In what manner therefore, or by what means, this debility is produced, remains now to be mentioned. And

FIRST. Among those causes which induce direct debility, the depressing passions of the mind, such as fear, grief, and despair, are deservedly to be enumerated. These affections undoubtedly act on the whole system, but they appear to produce their effects chiefly on the stomach, as is evidently demonstrated, by the defect of appetite, cardialgia, acid eructations, and other symptoms, the consequence of a loss of tone in the muscular fibres of that organ.

BUT the ratio in which the disease under consideration is succeeded, by those affections of the mind, remains as yet in obscurity.

SECONDLY. Cold. This is universally acknowledged to be a powerful cause in inducing debility. When applied to the body, it produces languor and inactivity, and lessens both the force and frequency of the pulse.

THIRDLY. Preceding disorders debilitate the body, and predispose it to disease; hence the dysentery frequently succeeds intermitting and remitting fevers.

FOURTHLY. Famine.

FIFTHLY. Filthiness. This has always been considered as a fruitful source of the disease of which I am now treating, and its frequent occurrence in camps and hospitals has been adduced in support of this opinion. A neglect of cleanliness, has no doubt, a considerable share in rendering the disease more violent when it has taken place, and may probably sometimes concur with other circumstances to produce it; for we find, that the poorer class of people, many of whom are destitute of the common necessities of existence, become much sooner affected, both with

this, and many other diseases, than those who enjoy a higher station in life.

THOSE causes which predispose to this disease by inducing indirect debility, are,

FIRST. Heat. Hence the greater frequency of the disease in warm climates, and in warm weather.

SECONDLY. Intemperance in the use of ardent spirits. Spirituous liquors if taken diluted, and in small quantity, appear to fortify, as it were, and give tone to the whole system. Melancholy experience however, teaches us, that an immoderate use of them, not only weakens the whole frame, but likewise renders it more excitable, and of course, more liable to the whole train of diseases, with which the human race are afflicted.

THE debility induced by the too free use of these liquors, is seated principally, in the stomach and intestines; which is one reason, and I think, a powerful one, why hard drinkers, are *cæteris paribus*, more subject to attacks of the dysentery, than those who lead a sober and regular life.



THIRDLY. Excessive fatigue, either of the body or mind, weakens the system, and renders it more susceptible of disease.

FOURTHLY, and lastly. Human and marsh effluvia.

### EXCITING CAUSES.

FROM the concurring testimony of all those physicians who have written on the dysentery, it appears, that the disease is more prevalent during the autumn, than at any other season of the year. At this time, the heat is excessive throughout the day, while the evenings are ushered in by cool breezes, attended with heavy falls of dew. Hence the poorer class of people, and particularly soldiers, who are much exposed to those sudden changes of the weather are often the subjects of this disease.

“ It is the soldier’s life,” says Dr. MOSELEY, “ to be much exposed, and it is his custom to be “ careless of himself : When he is fatigued, or “ heated, he hastens to cool himself in the breeze, “ or night air, and perhaps throws off his clothes, “ and often lies down and sleeps in that condition. If he is wet, he dries his clothes, linen, “ and skin, together. By these means, perspira-



“ tion, the great fountain of health in hot climates, is suddenly stopped, and febrile strictures occupy the whole surface of the body.”

WE are informed likewise, by SIR JOHN PRINGLE\*, that during the month of August, when the days are commonly very warm, and the nights, cool and damp; that the soldiers who were exposed to those sudden vicissitudes of the weather, were generally attacked with the dysentery; and Dr. HILLARY, in his account of the diseases of Barbadoes, tells us, he has always observed, “ that if the months of May, June, July and August were very hot and dry, and the following months of September, October, and November, were accompanied with much rain, so that the air was rendered cool and damp, and if the intermediate days between the rainy ones were very hot, that Dysenteries were very frequent and epidemical, and were generally more or less malignant, as the above mentioned changes of the weather, were greater or less, more sudden or more gradual, and of shorter or longer duration.”

FROM these observations it is proved, I think, beyond a doubt, that the immediate application

\* Diseases of the army.

of cold to the body, previously exposed to the stimulating effects of heat and marsh miasmata, is a very frequent source of the disease in question.

It was formerly supposed by the ancients, that the bile had a considerable share in producing the dysentery ; but the observations of modern writers, do not by any means confirm such an opinion : And upon the whole, I think we may safely conclude, that it is altogether erroneous and void of foundation.

SHOULD the use of fruit be enumerated among the causes of this disease ? This has been a subject of much debate among Physicians. I am however inclined to believe that it should not ; at least, I have never met with an instance of the disease, in which fruit appeared to have had any share in producing it. Dr. BAKER in his account of the epidemic dysentery, which prevailed in London in the year 1762, remarks, that those people who ate much summer, or autumnal fruit, were exempt from the disease, or had it mildly.

MODERN writers differ widely in their sentiments respecting the contagious nature of the dysentery. Dr. CULLEN thinks, that it often manifestly arises from the application of cold ;

“ but” says he, “ the disease is always contagious; and by the propagation of such contagion, independent of cold or other exciting causes; it becomes epidemic in camps and other places. It is therefore” he further observes “ to be doubted, if the application of cold does ever produce the disease, unless where the specific contagion has been previously received into the body : And upon the whole it is probable, that a specific contagion is to be considered as always the remote cause of this disease.”

DR. MOSELEY on the contrary, who resided for many years in the West-Indies, where the dysentery was extremely prevalent, and Dr. WADE in his account of the diseases of Bengal, both assure us, that they never saw an instance in which the disease was communicated by contagion. “ As to contagion” says MOSELEY, “ from infection in the dysentery, I must confess I never saw an instance of it; neither do I believe there is any such thing.”

THAT the disease however, is sometimes contagious, I shall not attempt to deny. PRINGLE, TISSOT, BLANE, and others, have, each of them furnished us with instances of it. But the following fact, communicated to me, by my very ingenious and worthy fellow candidate Mr.

SAMUEL COOPER, will, I am persuaded, place the matter beyond all possible doubt. In the month of June 1795, W. C. a stone-cutter, was admitted into the Pennsylvania Hospital with all the symptoms of a true dysentery. Upon his admission, a bed was provided for him in the lower south ward. A man who lay in the next bed to this patient, was in the course of a day or two seized with the disease ; and in a short space of time several of the patients in the ward became affected with it. By order of the attending physician, these patients were removed to a vacant apartment in the *venereal house*. On the second day after their removal, the nurse who attended them, became affected with the disorder ; and the venereal patients who were situated on the same floor, were all, in a short time, attacked with it. The disease was violent, and in one or two instances proved fatal.

BUT although the above fact clearly proves the dysentery to be *sometimes* contagious ; yet, I am well assured it is far from being *always* so. The disease was epidemic, and raged with considerable violence in Baltimore, during the latter part of the summer, and autumn, of the year 1795 ; but as far as my own observation extended, and from what I could learn from others, it was not in a single instance, contagious.

MOREOVER, it appears from the observations of Dr. HILLARY, that dysenteries constantly return every year in the West-Indies with the periodical rains; hence it may be concluded, that cold and moisture operating on the body, previously debilitated, are the principal exciting causes of this disease. From these and other circumstances, therefore, I am clearly of opinion, that the dysentery is never contagious, unless when it is accompanied with a fever of the malignant, or typhus kind; and consequently that Dr. CULLEN has been mistaken, in attributing it *always* to a specific contagion.\*

#### APPEARANCES ON DISSECTION:

BEFORE I proceed to enquire into the proximate cause of the dysentery, it may not perhaps

\* Note. It was the opinion of both Pringle and Cullen, that the contagion of dysentery, had the effect of inducing a putrescent tendency in the human body. But we have nothing I believe, in proof of this assertion. On the contrary, the dysentery which prevailed in the Pennsylvania hospital, (and which I have just shewn was evidently contagious), was attended, in several instances, with symptoms so highly inflammatory, as to require the free use of the lancet. This circumstance then, would in my view, be sufficient to prove, that the dysenteric contagion, acts in common with all other febrile contagions, as a direct stimulus to the sanguiferous system, producing in the first instance, indirect debility, and afterwards excess of irregular action.

be altogether unnecessary to take some notice of those appearances which have been discovered upon opening and examining the body after death. Researches of this kind have indeed afforded to physicians, an opportunity of exploring and rendering manifest, the nature, seats, and causes, of many diseases ; but in no instance I believe, have dissections been of more real utility, than in the disease at present under consideration.

UPON opening the bodies of the deceased, the large intestines are frequently found preternaturally thick and spongy, and sometimes entirely mortified ; or partly inflamed, and partly affected with gangrene. The rectum is generally most materially injured ; its villous coat (according to Pringle and Cleghorn) being in some instances entirely abraded.\*

\* Dr. Hunter in his observations on the diseases of the army, declares, that he never saw either gangrene, or mortification of the intestines, in any of the bodies of those dysenteric patients which he examined ; and thinks that the black colour of the intestines is altogether owing to extravasated blood. This opinion of Dr. Hunter's, however plausible it may at first sight appear, will not stand the test of unerring experience ; for although the black colour, may sometimes be owing to an extravasation of blood, yet, dissection has clearly proved, that the texture of the large intestines has, in many instances, been completely destroyed. In the bodies of three dysenteric patients which I myself examined, the large intestines were very evidently in a sphacelated state.



CLUSTERS of tubercles are likewise frequently found in the cavity of the colon, and small ulcers have been discovered in the peritonæum, colon, and rectum. These tubercles are seated under the villous coat, between that and the muscular coat. They are most frequently found in the large intestines; but they are sometimes also to be met with in the *ileum*; and there is generally an appearance of more or less of inflammation in their neighbourhood. The small intestines are commonly entirely free from injury, but their circumvolutions are sometimes intimately connected together, in the same manner as the lungs and pleura, after being inflamed, are often found adhering to each other.

DR. CLEGHORN relates two cases of dysentery that came under his notice, in both of which, the omentum was almost entirely consumed, and a purulent matter found in the cavity of the abdomen. In short, there are none of the abdominal viscera, which have not been sometimes found more or less affected, in this disease.

#### PROXIMATE CAUSE.

MEDICAL writers have entertained different sentiments on this part of our subject. Some of them maintain, that the proximate cause of the

dysentery consists in an acrid state of the bile, which by irritating the intestines, produces the train of symptoms which characterize the disease. Others affirm, that an acrid matter either received into the bowels, or generated there, excites their peristaltic motion, and in this manner occasions the tormina and frequent dejections, which are constant concomitants on the disease in question.

THE basis however, on which these opinions are founded, appears to me to be a very slender one. The application of acrid substances to the intestines, produce, we know, not only frequent, but likewise copious evacuations; but in this disease, the case is widely different; for although the discharges are frequent, yet they are invariably small in quantity, and appear to proceed altogether from the lower part of the rectum.

ACCORDING to Dr. CULLEN, “ the proximate cause of the dysentery, or at least, the chief part of the proximate cause, consists in a preternatural constriction of the colon; occasioning at the same time, those spasmodic efforts which are felt in severe gripings, and which efforts propagated downwards to the rectum, occasion there the frequent mucous stools and tenesmus.” Here however, the doctor has in



my opinion, evidently mistaken the effect for the cause ; this preternatural constriction of the colon, being merely the effect of previous morbid excitement, or inflammation, existing in the intestines.

THAT a spasmodic constriction of the colon does exist, in every case of dysentery, we are ready to grant ; but still, this does not by any means prove it to be the cause of the disease. Now spasm we know, cannot exist in a part, independent of some irritating cause acting with more than usual force ; and it would I conceive be rather a difficult matter, to find any cause adequate to produce such a long and permanent continuance of it, except the inflammation which we suppose to be present, and the real existence of which, has been clearly demonstrated in a thousand instances.

BUT in order to prove more satisfactorily that this is the case, let us for a moment only recal to our view, the causes which remotely act in producing the disease. These we shall find to consist, either in the action of a *specific* contagion, or in the combined operation of heat, marsh miasmata and external cold. The effect of these powers is, in the first instance, to produce morbid action in the blood-vessels, which, in consequence of previous predisposing debility, is determined to the bowels ; or, to use the words of Dr.

SYDENHAM, “ *the fever is thrown in upon the intestines.*” This morbid action or fever, thus determined to the intestines, proves a constant source of irritation, and in this manner occasions those spasmodic constrictions of the colon which always constitute a characteristic symptom of the disease in question.

IMPRESSED with a full conviction of the truth and propriety of these observations ; I am thence induced to believe, that the immediate or proximate cause of the dysentery, consists, in excessive morbid excitement, and irregular action, in the vessels of the intestines, or in other words, in an inflammatory affection of these parts.

THIS opinion is supported by all the arguments of which the nature of a subject of this kind will admit. For whether we regard the symptoms which constitute the disease, whether we advert to the causes which induce it, or take into consideration those remedies which cure it, we shall, I am persuaded, find equal reason from each of these sources, to confirm us in our idea. Moreover, if we attend to those appearances which invariably present themselves to our view, upon examining the bodies of those who have died of this disease, we cannot I conceive, admit even the smallest doubt of the foregoing theory.

## RATIO SYMPTOMATUM.

HAVING now endeavoured to establish a proximate cause, we are in the next place to see if it will satisfactorily account for the symptoms. The acute *tormina* which always occur in the first days of the disease, are evidently owing to an inflammation of the large intestines; in consequence of which they become so preternaturally tender and susceptible of impression, as to be easily thrown into violent and painful contractions. The *tenesmus* too, which is a symptom essential to dysentery, is likewise owing to an inflammatory affection of the inferior part of the rectum, by which, it is rendered so extremely sensible, as to become excessively irritated by the action of the fæces and acrid humours.

THE *discharge of blood* which sometimes takes place from the bowels is altogether owing to an increased morbid action in the vessels of those parts, occasioning the exhalant arteries to pour fourth blood into the intestinal canal. The *purulent evacuations* which now and then occur, in all probability, proceed from suppurations formed in the colon and rectum.

THE *strangury* appears to be the effect of the inflammation, extending from the rectum, to the neck of the bladder; or it may possibly sometimes be owing to a sympathetic connexion between these parts. The *proidentia ani* evidently proceeds

from the violent efforts made by the patient when at stool; and the *scybala* are formed in consequence of a remora of the fæces in the cells of the colon.

IN a former part of this essay, I observed, that authors had entertained different sentiments respecting those *membrane-like appearances* which are sometimes discharged by patients labouring under this disease. Some have supposed them to be abraded portions of the inner coat of the large intestines; but from several circumstances, I am inclined to believe, that they consist altogether of the *coagulating lymph* which is exuded from the inflamed intestines. The *corpora pinguia* too, which are taken notice of by Sir JOHN PRINGLE, and other writers, are probably nothing more, than portions of *coagulating lymph*, retained in the cells of the colon, and there formed into those small bodies resembling *suet*.

THE *ulcerations* which are frequently observed upon dissection, are evidently the consequences of inflammation terminating in abscesses; and the *miliary eruption* which occasionally takes place is clearly the same as that, which often attends the sweating stage of other febrile diseases.

#### PROGNOSIS.

THERE is perhaps no disease with which we are acquainted, that requires a more strict atten-

tion and greater diligence on our part, than that of which I am at present treating. For although the complaint in a few instances, (and in those only when it is very mild) ceases spontaneously without medical aid; yet, in the generality of cases, unless a proper mode of treatment is instituted in the early stage of the disease, we have often, too often indeed, reason to regret its melancholy result. The delay of timely assistance for a few days; nay, when the disorder is very violent, for a few hours only; often frustrates our best concerted measures to arrest its progress.

IF upon being called to the patient during the early stage of the disease, we find, that the dejections although frequent, consist however, in part of natural feces, and are more especially unaccompanied by any discharge of blood; if the pain in the bowels and vomiting are not very harassing; and if the strength of the patient is but little exhausted; under such circumstances as these, a favourable issue may be expected.

BUT if, on the contrary we are not called, till the disease is far advanced, and a fever tending to the typhus or gangrenous state has already taken place, accompanied by great debility, frequent vomiting, and singultus; if the tormina and tenesmus are severe, attended with frequent

cadaverous and dark-coloured stools; all these symptoms portend an unhappy omen.

### METHOD OF CURE.

THE indications of cure are,

FIRST, To mitigate and take off the fever.

SECONDLY, To remove irritation.

THIRDLY and lastly, To restore the strength of the patient.

IN order to fulfil the first indication, the remedy which immediately presents itself to our view, is

FIRST, Blood-letting. This is often an invaluable remedy in the early stage of the dysentery. It is a matter of the utmost consequence, always to draw blood at the commencement of the disease, if the febrile symptoms run high; for at this time, no evacuation is so well calculated to relieve the patient, none better adapted to take off the determination to the bowels.

IF therefore we are called at an early period of the disease, and find the febrile and inflammatory symptoms to be considerable, and attended with much pain; venæsection should be immediately practised, and should be repeated as often



as the urgency of the symptoms may render it necessary.

DR. MOSELEY strenuously recommends the above evacuation in this disease. "Bleeding," says this excellent author, "being an operation of great consequence in the flux, the cure is generally begun with it, repeating it as the symptoms authorize. There are but few instances where it may not safely be done in the beginning of the disease, observing only "*non quæ ætas sit, sed quæ vires sint.*" "The necessity" continues he "is obvious, where the patient is plethoric, with much fever, full pulse, and severe pains."

NOR should a low pulse, (when it occurs in the beginning of the disease) deter us from bleeding, for it often becomes full, and even tense, after the operation. Dr. DONALD MONRO, in his observations on the cure of the dysentery, tells us, that when the patients were strong, and complained of much pain in the bowels attended with a fever, he used the lancet freely; nor was he discouraged from bleeding by the low quick pulse which often attended the beginning of the disorder, for it frequently rose as the blood flowed from the vein.\* The low, or more properly

\* Diseases of the army.

speaking, the depressed pulse, which often occurs in the beginning of this, and many other febrile diseases, is entirely the consequence of an high degree of inflammatory action, and is therefore to be remedied by the use of the lancet.

SECONDLY, Emetics. These are often highly serviceable in removing crudities from the stomach, and cleansing the *primæ viæ*. But our great expectation from vomiting is, that its action on the muscular fibres of the stomach, forces open the extreme arterial capillaries, forwards the circulation to the surface of the body, and induces to sweat.

IN this intention therefore, either tartar-emetic or ipecacuanha, may, according to circumstances, be used. When administered in suitable doses, and at proper intervals, they not only prove emetic and diaphoretic, but often likewise, produce free and copious discharges from the bowels. They are often advantageously given in combination with each other.

THIRDLY, Purgatives. Medicines of this class have been highly recommended and freely used by all physicians. They are undoubtedly of considerable utility in evacuating the indurated fœces and acrid humours from the bowels; which, by being retained there, would tend to



increase the inflammation, and aggravate all the symptoms. At the same time however, that they are given with an intention to evacuate freely, they should not prove too stimulating. Those of the milder class therefore, are always to be preferred.

Under these impressions, the neutral purging salts, are, at the present day in general use. The chief of these are glauber's salt\*, the bitter purging salt†, and soluble tartar‡.

Castor oil too, when it is properly prepared, and has not become rancid by keeping, is one of the best purges in the dysentery. It frequently eases the painful gripes as soon as it is taken, and seldom fails, when it agrees with the stomach, to procure copious evacuations. Calomel is likewise an useful purgative.

FOURTHLY. Sudorifics. These act by determining the fluids from the bowels to the organ of perspiration. They may be used therefore with the greatest advantage in this stage of the disease.

\* Natron vitriolatum Ph. Lond. 1788.

† Magnesia vitriolata Ph. Lond. 1788.

‡ Kali tartaricatum Ph. Lond. 1788.

THE use of sudorifics has of late been highly extolled in the present complaint by Dr. MOSELEY, who declares, that the bark is not a more certain remedy in intermittents, than sudorifics are in the dysentery. The good effects which I have often experienced from them, convinces me, that Moseley has not said too much in their favour.

WITH a view to excite perspiration, a variety of medicines have been at different times recommended by authors. MOSELEY speaks highly in favour of James's powder; and I have often seen the best effects from the use of Dover's powder\*, antimonial wine, &c. But the most powerful diaphoretic with which I am acquainted is CALOMEL. This invaluable remedy acts forcibly on the extreme vessels of the superficies, producing at the same time little or no irritation in the sanguiferous system. It was used with the happiest effects by my worthy preceptor Dr. BROWN, in the late epidemic dysentery which prevailed in Baltimore. It is likewise highly spoken of by many late writers, particularly by Doctors' CLARK† and WADE;‡

\* Pulvis Ipecacuanhæ comp. Ph. Lond.

† On hot climates.

‡ Observations on the diseases of Bengal.

both of which gentlemen have given us a variety of cases in proof of its superior efficacy in this disease. It should be given in doses proportioned to the urgency of the complaint, either alone, or combined with a sufficient quantity of opium to procure an alleviation of the griping pains, which are sometimes insupportable.

BUT I do not wish it to be understood here, that I suppose calomel is always productive of good effects, by acting *solely* as a diaphoretic. On the contrary, many cases of the disease have come within my own observation, in which, no apparent advantage resulted from the use of this medicine, until it had affected the salivary glands. In these instances it appears to operate, by exciting a *new action* or an artificial disease in the glands above mentioned, and thereby concentrating or inviting as it were, the disorder from the bowels to these parts\*.

\* Dr. Clark, speaking of the use of Calomel in the epidemic dysentery which prevailed at New Castle in the year 1783, observes, “ although in the above instances of epidemic dysentery, the superior efficacy of calomel seemed to be established, yet I was still in doubt whether to impute its virtues to its purgative or to its mercurial quality. But in the autumn of the year 1785, the dysentery again made its appearance, and was attended, in many patients with so great irritability of the stomach, that the common purgatives were immediately

FIFTHLY. Blisters. Should the pain in the bowels continue obstinate, notwithstanding the use of the several remedies abovementioned, immediate recourse should be had to the aid of blisters, which indeed often act like a charm in removing this harrassing symptom. They may be applied with advantage to almost any part of the body ; but they are generally more certain in their effects, and productive of more immediate relief, when laid on the abdomen. Fomentations to the abdomen and extremities are likewise frequently of service in alleviating the griping pains.

“ rejected. To two patients in this situation, I gave three  
 “ grains of calomel conjoined with opium, every four hours,  
 “ which in both, allayed the vomiting. By an inconsiderable  
 “ quantity of mercury, the gums became tender ; in conse-  
 “ quence of which, the gripes and tenesmus were instantly re-  
 “ lieved ; natural evacuations followed ; and health was speedily  
 “ restored, without the assistance of any other medicine.

“ Being now thoroughly convinced of the advantages result-  
 “ ing from calomel as a mercurial, I gave it more freely du-  
 “ ring the course of the epidemic, and also recommended the  
 “ practice to all my medical friends in this neighbourhood. All  
 “ of them have concurred in observing, that they were much  
 “ more successful than formerly, and that generally as soon as the  
 “ medicine occasioned the slightest tenderness of the gums, the  
 “ distemper was either speedily removed, or became extremely  
 “ tractable.”

THE second indication was, to remove irritation. In endeavouring to accomplish this, opium claims our most pointed attention.

IN this stage of the disease, opium is undoubtedly a sovereign remedy. It assists powerfully in removing the gripes and tenesmus, procures refreshing sleep to the exhausted patient, and paves the way for the use of tonics. When by the depleting plan above laid down, the fever and the determination to the bowels, have been in a great measure subdued, and the tormina and tenesmus appear to be owing to irritation alone; in such cases, the use of opium will be attended with the happiest effects. It should be given in small doses throughout the day, and increased at night.

DEMULCENTS may be used with advantage in every stage of the disease. They should be taken by the patient as common drink, and injected likewise, if necessary, in the form of clyster. Starch, gum-arabic, or lint-feed, properly prepared, may be beneficially employed in either of the above intentions. They answer a good purpose by sheathing and defending the intestines from the action of those acrid and irri-

tating humours, which are constantly generated during the whole course of the complaint.\*

THE third and last indication of cure was, to restore the strength of the patient.

AUTHORS differ but little, with respect to the mode of treatment proper to be pursued in this stage of the disease, and here indeed their difference is but of little consequence. For unless, (as Dr. MOSELEY justly observes,) the disease has been managed with judgment in the beginning; the patient is generally indebted for his recovery, to the strength of his constitution, or to some fortunate change, that time, and not medicine effects in his habit.

IT sometimes happens however, after the most violent symptoms of the disease have been removed, that the discharge from the bowels, and tenesmus, will continue to be troublesome and distressing from mere debility and relaxation of the intestines, unaccompanied by any material gripings or febrile symptoms. When this is

\* I have observed the most beneficial effects in this disease, from the use of a mixture composed of equal parts of the oil of olives and rose-water, with the addition of a sufficient quantity of sugar to render it agreeable. The dose is a table-spoonful every hour or two. Mutton suet boiled in milk, has likewise been used with great advantage.



the case, it will be proper to have immediate recourse to the aid of tonics. Of these, the peruvian and angustura barks, simarouba, quassia, colombo-root, and the various preparations of steel, are the most powerful.

IF acidity prevails in the *primæ viæ*, magnesia, prepared chalk, or any other absorbent, may be prescribed with advantage, either alone, or in conjunction with some of the remedies just mentioned.

WHEN the disease is reduced to the state of a simple diarrhœa, astringents, such as gum kino, alumen, the red wines, &c. may be beneficially employed. Should these fail, the VITRIOLIC SOLUTION may be tried in the manner recommended by Dr. MOSELEY. It has frequently been of service, and should always therefore be kept in view.\*

ANOTHER powerful remedy which I must by no means neglect to mention in this place, is that of BLISTERING. After the whole routine of remedies enumerated under the present head of

\* I have never myself made trial of this solution. Dr. GOODWIN however, a physician of eminence in Baltimore, informed me, that he had used it in two or three cases with obvious advantage.



cure, have been administered without the least benefit to the patient; blisters, applied to the extremities, (as recommended by Dr. RUSH) will often be productive of the most salutary effects: They set up a *new action* on the skin, and thus relieve the disordered bowels.

PURE air, together with moderate exercise, a nourishing and somewhat stimulating diet, and a proper attention to cleanliness, will all, powerfully tend to give tone to the system, and restore the strength of the patient.

“ DURING the convalescent state of those  
 “ who have been much reduced, and to prevent  
 “ a relapse, a flannel shirt, or jacket, worn next  
 “ the skin, is very beneficial. When the bowels  
 “ have suffered considerably by the flux, and  
 “ cannot recover their tone, but from weakness  
 “ are subject to returns of the disease, or to diarrhœa or tenesmus, on the least exposure to cold;  
 “ a flannel jacket next the skin, will be found almost a certain remedy and preventative.”

HAVING now concluded my Thesis, I have only to bid a cordial and an affectionate adieu to this University, and its worthy Professors, under whose auspices, I have had the honour of finishing my medical education. To you gentlemen, I beg leave to return my warmest acknowledgements, for the useful information which I have received from your valuable lectures.



